

IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF CALIFORNIA

HORUS VISION, LLC

Plaintiff,

v.

APPLIED BALLISTICS, INC., APPLIED
BALLISTICS, LLC, and APPLIED BALLISTICS
MEDIA, INC.,

Defendants.

)
)
)
)
)
)
)
)
)
)
)

Case No. 14-cv-5206-BLF

JURY TRIAL DEMANDED

EXPERT DECLARATION OF MIKE LAMB (U.S.M.C. (Ret.))

**EXPERT DECLARATION OF MIKE LAMB
RE CLAIM CONSTRUCTION**

I, Mike Lamb (U.S.M.C. (Ret.)), submit this report pursuant to Federal Rule of Civil Procedure 26, and pursuant to 28 U.S.C. § 1746, and declare as follows:

I. PRELIMINARY MATERIALS

1. I am a founder of the firm of Stoic Ventures. Stoic Ventures is a training and consulting firm composed of former military and law enforcement special operations operators and intelligence personnel. Stoic Ventures is a global consulting firm offering expertise in operations, strategy, organization, technology, and security. Stoic Ventures is guided by the belief that, in combat, law enforcement, or other hostile situations, destructive emotions cause errors in judgment and can result in dire consequences. As a result, we strive to train our clients so they are governed by training and a high standard of professionalism, rather than emotions such as fear or rage.

2. I served in the United States Marine Corps for thirteen years (May 1996-May 2009). During this time, I held both enlisted (Staff Sergeant) and commissioned officer ranks (Captain). While in the Marines Corps, I served as a Force Recon Marine. Force Recon Marines are trained in a variety of skill sets including sniper, counter terrorism, hostage rescue, and intelligence gathering. I was medically retired and honorably discharged from the Marines in 2009.

3. Following my retirement from active duty in the Marines, I was recruited to work for Magpul Industries Corporation and Magpul Dynamics. The Magpul companies manufacture weapons accessories and provide high level firearms training. While employed by Magpul, I held the title of Director of Military Operations and served as a plank holder (founding member) of the Magpul Dynamics elite training division, where we trained thousands of military and law enforcement personnel around the country.

4. I received Marine Corps Recruit Training in 1996. I completed the Graduate Scout Sniper Basic Course in 1997. I completed the U.S.M.C. Graduate Officer's Candidate School in 2003. I completed the Marines Scout Sniper Unit Leader Course in 2006. I obtained a B.A. in Psychology from the University of Arizona in 2005. I obtained a Masters of Business Administration (M.B.A.) from the University of Southern California in 2008.

5. While in the Marines, I served as a sniper and counter sniper in multiple combat theaters. I instructed and oversaw convoy operations, military operations in urban terrain, and designated marksman courses in all combat arms. I deployed to Afghanistan and to Iraq during January 2006 - October 2006 while stationed at Twentynine Palms Marine Corps Base. I also served as a Sniper Employment Officer. Since leaving active duty I have trained personnel from the Department of Defense, the Department of the Treasury, the Department of Homeland Security, the Department of Justice, the State Department, numerous military units, and state and local agencies in precision rifle and sniper operations. I have also consulted and provided expert testimony for various government entities and consulted privately for government as well as private companies in matters of defense.

6. I am being compensated as an expert witness in this case at the rate of \$250 per hour. My compensation is not tied in any way to any outcome in the case.

A. Statement of Assignment

7. I have been asked by Horus Vision, LLC ("Horus Vision" or "Horus") to offer an opinion as to the correct claim construction of certain terms of U.S. Patent 8,893,971 (the "'971 patent"). I have also been asked to opine on whether claims incorporating certain terms are definite as required by law.

B. Summary of Main Opinions

8. I have based my opinions on my analysis of the materials received and reviewed and on my experience in the field of precision shooting. The following is a brief summary of the main opinions I offer in this report, which are explained in detail in later sections.

9. In my opinion, the term lead marking is a common and well-understood term that would be understood in its ordinary sense by one of skill in the art. Should the Court decide to construe the term “lead marking,” in my opinion the construction should be “markings on a reticle that allow for assessment of rate of movement of a target along a cross-hair.” Thus, because the term “lead marking” is used in the claim in the context of “two or more vertical lead markings upon said primary horizontal cross-hair,” if a construction is required, the larger phrase should be construed to mean “two or more vertical markings upon said primary horizontal cross-hair that allow for assessment of rate of movement of a target along a cross-hair.”

10. In my opinion, the term “lead marking” is not indefinite, nor are any claims of the ’971 patent that employ it indefinite. To the contrary, in my opinion, the term lead marking and the words of the claims of the ’971 patent as a whole clearly define the scope of what is claimed.

11. In my opinion, the terms “intersection” and “interrupted intersection” are common and well-understood terms that would be understood in their ordinary sense by one of skill in the art. In my opinion, the intersection of cross-hairs as recited in the claims of the ’971 patent need not be visibly depicted, but may instead be inferred from context. Should the Court decide to construe the term “interrupted intersection,” in my opinion the construction should be “an intersection of lines with a gap or shape at the junction.”

12. In my opinion, the Court’s prior construction of “intersection” in a related case does not render the claim indefinite. The use of the term “interrupted intersection” in a

dependent claim of the '971 patent does not alter my opinion as to the definiteness of these terms and the claims as a whole.

13. I have reviewed the summary of opinion of Mr. Campbell as it was summarized by counsel for the Applied Ballistics parties (“AB”) in Exhibit A of the “Joint Claim Construction and Prehearing Statement” in this case (attached as **Exhibit 1**). Additional materials I reviewed in preparing my opinions are summarized in **Exhibit 2** and cited herein.

II. LEGAL STANDARDS

14. The following legal standards have been explained to me by counsel for Horus Vision. I have applied them to my detailed opinions explained below.

15. I have been informed that the scope of a patent claim is to be determined by the words of the claim itself, read in view of the specification. I have further been informed that the claims are to be interpreted in terms of their meaning to one of ordinary skill in the art at the time of the invention. Thus, whether or not I specifically employ the “ordinary skill in the art” language in connection with a particular opinion on claim construction, at all times in this declaration I am offering my opinion as to how the claims would be understood by one of ordinary skill in the art (as opposed to a layperson or one who does not have ordinary skill in the art). Also, my opinions in this declaration are likewise always given from the appropriate timeframe perspective for claim construction, the time of filing.

16. I have also been informed that claim terms are given their plain and ordinary meaning to one of ordinary skill in the art at the time of the invention unless the inventors depart from that meaning. I have been informed that inventors may depart from the ordinary meaning of a claim term in two ways: 1) by defining the term in a special way; or 2) by disclaiming or disavowing a meaning that would otherwise be part of the claim term’s ordinary meaning. I

further understand that the Court's role in claim construction is not to rewrite the claims, but rather to give effect to the claims as originally written by the inventors and issued by the Patent Office.

17. In my opinion, the level of ordinary skill in the art is as follows: A person of ordinary skill in the art has formalized training with long range shooting using target acquisition devices and reticles employed with ballistics calculators.

18. I have been informed that a claim may be invalid under the patent laws of the United States if it is "indefinite." I have been informed that a claim is indefinite if, when viewed in light of the specification and prosecution history, it does not inform those skilled in the art what the scope of the invention is with reasonable certainty.

19. I have been informed that criteria for assessing a claim's definiteness has been suggested in the law. I understand that these criteria are: 1) definiteness is to be evaluated from the perspective of someone skilled in the relevant art; 2) in assessing definiteness, claims are to be read in light of the patent's specification and prosecution history; and 3) definiteness is measured from the viewpoint of a person skilled in the art at the time the patent was filed. I have incorporated these criteria in my evaluation of whether the claims of the '971 patent are definite.

20. I have reviewed the Court's December 9, 2014 claim construction order construing claims of the '878 patent in a related case,¹ and considered them in forming the opinions I express in this report.

¹ "Order Construing Claim Terms of U.S. Patent No. 7,937,878," *Horus Vision, LLC v. Applied Ballistics, LLC*, Case No. 13-cv-05460-BLF, 2014 WL 6989233 (N.D. Cal. Dec. 9, 2014) ("'878 Markman").

III. TUTORIAL

21. In connection with this case, I may provide a tutorial, including the use of demonstratives, which generally explain precision shooting, target acquisition devices and reticles, and ballistics calculators. These presentations will be based on general information that can be found in journal articles, standard textbooks, and similar references.

IV. DETAILED OPINIONS

A. Construction of the Term “Lead Marking”

1. “Lead Markings” Is a Well-Known Term in the Art

22. In my opinion, the term “lead markings” is a well-known term in the art. As explained by the ’971 patent, lead markings are markings on a reticle that are useful for determining or estimating the rate of movement of a target. Furthermore, if the rate of movement of a target is known or approximately known, lead markings can be used to obtain an appropriate “lead” (also called a “holdover” in certain circumstances) out ahead of the target so that the bullet will arrive at the location where the target has moved accounting for its speed at the time of firing. When the shooter is moving relative to the target, the terms “reverse lead” or “lag” are often used.

23. The term “lead markings” is not unique to the ’971 patent. To the contrary, I am very familiar with concept of “leads” and the term “lead marking” from my experience in precision shooting and the use of reticles. In my opinion, these concepts are not new or even recent. The problem of shooting a moving target is presumably an ancient one, given that targets in the real world rarely cooperate by remaining motionless. Indeed, in real-world applications, moving targets are at least as common, if not more so, than stationary ones. Thus, the use of

markings on the reticle to determine “leads” for the purpose of hitting a moving target is well known in the field.

24. Successfully hitting a moving target using lead markings does not require absolute precision. The goal of most shooters, whether for hunting or military applications, is to hit a target within a vital zone radius. This vital zone radius defines a region that, if hit, achieves the goal of neutralizing the target. For example, ethically killing a game animal. The size of the vital zone radius varies depending on the body region and animal type, but it is typically many inches in radius. In practice, regardless of the ammunition employed, because the projectile moves so fast, the shooter can be “off” by some distance with the lead marking and still successfully strike the target in the vital zone radius. Even if the shooter imperfectly assesses the target’s direction of movement or distance, use of a lead marking can still allow successful striking of a target. For example, a target moving at 3 miles per hour at a distance of 50 meters may give a lead of 1.6 mils, while the same target at 500 meters may give a lead of 1.8 mils. This difference of 0.2 mils (or 3.78 inches) ordinarily should not affect the shooter’s ability to successfully strike the vital zone radius.

25. To illustrate the fact that “lead-markings” is well known in the art, I provide a few references below to illustrate that the general concept of “lead markings” and the concept of using markings as “leads” is well known in the art.

26. The 1944 publication of the U.S. Army War Department entitled “57-MM Gun, M1” contains a discussion entitled “Aiming with leads.”² This discussion explains how the reticle provided for this gun contains lead markings:³

² See 57-MM Gun, M1, U.S. Army War Department (1944) at 62, ¶ 68b (attached as **Exhibit 3**).

³ See *id.* (emphasis added).

To afford the gunner a scale for applying these leads, the telescope reticle is provided with a horizontal line graduated in six 8.9-mil units, three on either side of center. Points below A and G, shown in figure 18, where the line begins to thicken, are the **3-lead markings**. . . . The gunner is taught how to apply the lead graduations when engaging a moving target. (See fig. 18.) In aiming at a moving target, the bore must be aimed ahead of the target. The vertical cross hair in the center of the telescope indicates the direction of the bore of the gun. Thus, if a gunner is engaging a target moving to the right with one lead, and the correct range has been set on the range quadrant, the vertical cross hair in the center of the telescope is to the right (ahead) of the target. He places the intersection of the horizontal cross hair and vertical line C on the target. The intersection of the horizontal cross hair and line E is used if the target is moving to the left. . . . When aiming for one-half leads, the gunner interpolates between the **lead markings**.

Figure 18, referenced in the above paragraph, is reproduced below:⁴

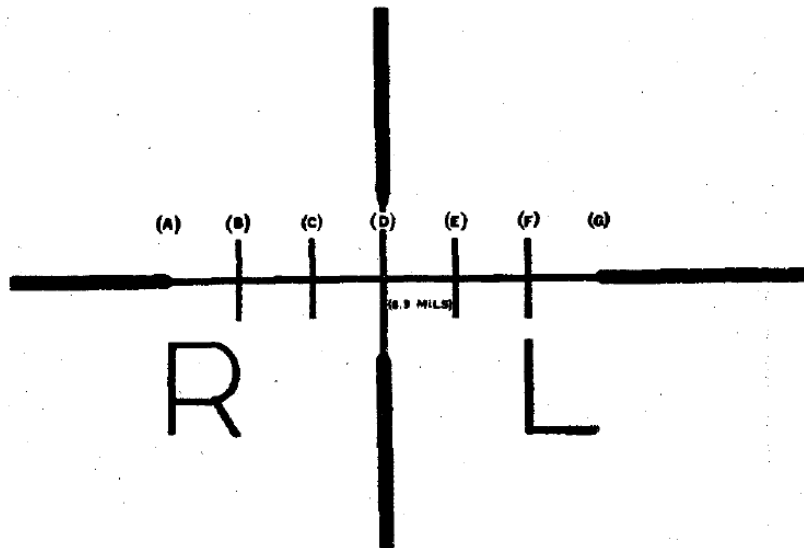


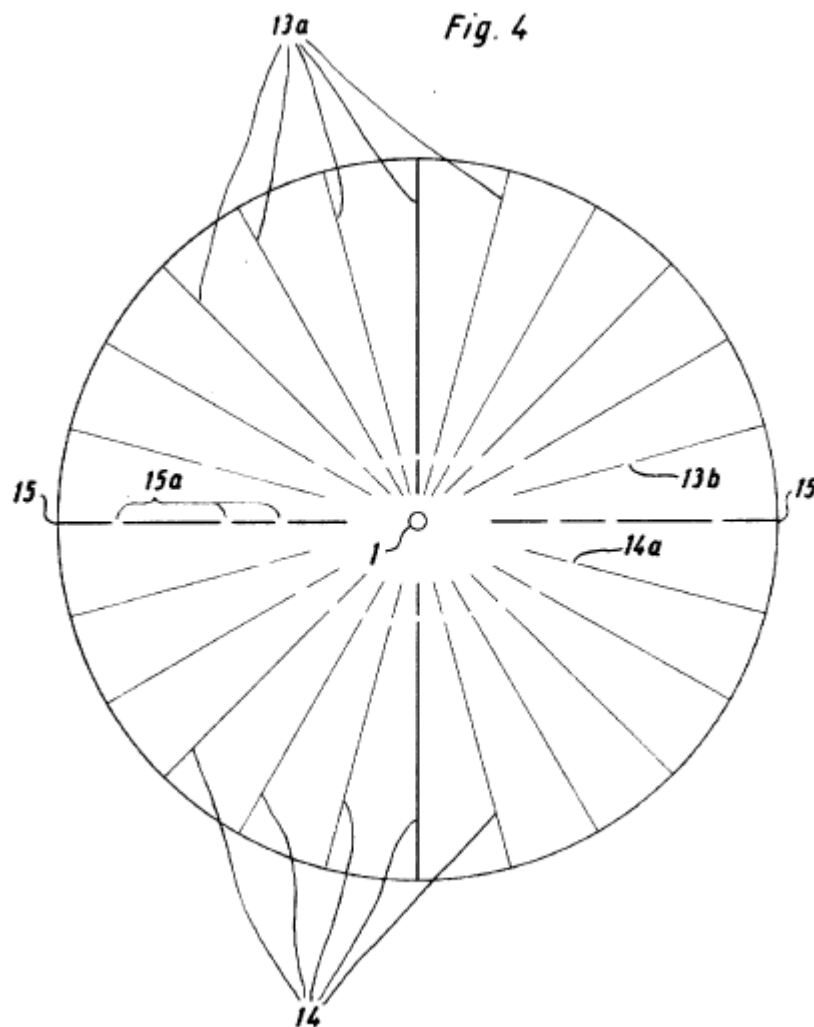
Figure 18. Reticle, M18 telescope (letters and numerals shown in parentheses do not appear on the reticle).

27. Another relevant reference is U.S. Patent No. 3,638,321.⁵ This patent teaches the use of lead markings on an aiming device reticle “particularly for combating moving air targets.”

⁴ See *id.* at 61.

⁵ See United States Patent No. 3,638,321 to H. Eglin, “Aiming device for light weapons particularly for combating moving air targets,” issued February 1, 1972 (attached as **Exhibit 4**).

Of note, this patent employs the term lead markings throughout without providing the basic definition of lead markings. In my opinion, this is because one of skill in the art already knows what a lead marking is. The patent also provides an example reticle, reproduced below, and teaches in reference to this figure that “[t]he lead markings formed by the inner ends of the horizontal lines 15, and their interruptions 15a, are suited for combating airborne targets in tracking which the weapon barrel performs no changes in elevation.”⁶



⁶ See *id.* at 5:13-16 and Figure 4.

28. Another reference is the 2004 U.S. Marine Corps Manual MCWP 3-15.3, entitled “Sniping.”⁷ This is a manual that I learned from in my training. Like the other references I discuss, this reference shows that the concept of using leads to engage moving targets was well-known to those of ordinary skill in the art at the time the ’971 patent was filed. Section 311, entitled “HOLDS AND LEADS”⁸ describes techniques for hitting a moving target without holding the crosshairs directly on the target.

29. Another reference is the 1994 U.S. Army Field Manual FM 23-10, entitled “Sniper Training.”⁹ I note that this manual is referenced on the cover sheets of the ’971 patent.¹⁰ This reference contains a discussion of the use of leads and lead markings.¹¹ Like the other references I discuss, this reference shows that the concept of using leads to engage moving targets was well known and important to those of ordinary skill in the art at the time the ’971 patent was filed. This reference also shows that the ’971 patent uses the term “lead markings” in accordance with that term’s commonly-understood usage in the field. The reference also contains a discussion of how to use lead markings on the reticle, for the determination of leads (or “holds”) for engagement of moving targets, that employs the term lead markings in the same way as the same teachings of the ’971 patent.¹²

⁷ See U.S. Marine Corps Field Manual MCWP 3-15.3, “Sniping” (May 2004) (“2004 Field Manual”) (attached as **Exhibit 5**).

⁸ See *id.* at page 3-20 to 3-21.

⁹ See U.S. Army Field Manual FM 23-10, United States Army Infantry School ATSH-INS3, Fort Benning, GA “Sniper Training” (Aug. 1994) (“1994 Field Manual”) (attached as **Exhibit 6**).

¹⁰ See ’971 patent at 4, right hand column.

¹¹ See 1994 Field Manual, at 3-43 – 3-45.

¹² See ’971 patent at 51:51-52:13; 54:35-52.

30. Finally, I note that the term “lead markings” also remains in contemporary use by others. U.S. Patent Application Publication No. 2014/0123534, applied for by Stephen Todd Hodnett, contains very similar teachings to the ’971 patent with respect to lead markings.¹³ For example, this patent application states that “[i]n one embodiment, the reticle of the present disclosure comprises a plurality of primary cross-hairs separated by predetermined distances, a plurality of secondary cross-hairs at predetermined distances along said plurality of primary cross-hairs, and a plurality of lead markings indicating rate of movement of the target along at least one said cross-hair.”¹⁴ I note that this patent application also provides many teachings regarding lead markings in terms of how they may be evenly or unevenly spaced, take any shape or configuration, and may occupy any position in relation to primary and secondary vertical or horizontal cross-hairs.¹⁵ In my opinion, this patent application shows that its inventor understands the term “lead markings” and employs the term consistent with both the well-known meaning of the term, as discussed above, and with the manner in which the term is used in the ’971 patent.

2. If Construed, “Lead Markings” Should Be Construed As “Markings on a Reticle that Allow for Assessment of Rate of Movement of a Target Along a Cross-Hair.”

31. The reticles described in the ’971 patent provide a system for determining or estimating the range and/or speed of a target and using that information to efficiently hit a moving target at any number of ranges. Speed can be determined or estimated using the lead

¹³ See United States Patent Application Publication No. 2014/0123534 A1 of S.T. Hodnett, “Reticle including windage aiming points adjusted for distance to a target,” published May 8, 2014 (attached as **Exhibit 7**).

¹⁴ See *id.* at ¶ [0017].

¹⁵ See *id.* at ¶¶ [0115]-[0118].

markings. If optimized for ease of use, the lead markings are typically evenly spaced apart. Because they are separated by known distances from one another, for example in mil or fraction of mil increments, a target is monitored to determine how much time passes before the target moves between two markings. This provides a speed value (distance/unit time). If desired, actual miles per hour or feet per second or other desired unit can be determined from knowledge of the size and range of the target. However, there is no need to know exact units of speed to use the lead markings to hit the moving target. Because not all bullets fly at the same speed, the spatial distance for markings in the reticle can be either evenly or unevenly spaced in the reticle. Each mark will correspond differently with a different speed at a different distance. For example, a .300 Winchester magazine (“win mag”) will take almost exactly 1 second to travel 750 yards, a target moving at 3 miles per hour will move 2 mils in the reticle every second, thus requiring a 2 mil lead, if the target is moving at 4 mph it will require a greater lead (2.7 mils) which would not be a standard mil grid lead, or an unevenly spaced lead.

32. If the lead markings are optimized properly, many of the calculations can be avoided. Figures 54 and 55 of the '971 patent provide examples of such reticles. With these designs, lead markings, numbered, 2, 4, 6, 8, and 10 are provided along the primary horizontal cross-hair on either side of the primary vertical cross-hair. The numbering 2, 4, 6, 8, 10 are for estimates of speed of a moving target. For example, a man walking slowly is 2 mph, a normal walking pace of a man is 4 mph, brisk walk or slow jog is 6 mph, average jog speed is 8 mph, and a fast jog is 10 mph. Of note, all these speeds are also relative to targets in vehicles, in traffic, etc. Some reticles go even further out, up to 60 mph for vehicle interdiction, which is also a sniper skill-set as snipers are often requested for anti-material targets (taking out engine blocks, tires, etc.) to immobilize a target. As not all targets are human or animals, these material

“vital zones” can be considerably larger on these targets. These lead markings are exceptionally fast and intuitive for snipers that have a very limited window of time to engage the moving target as it may only be exposed for a limited window of time. The ’971 patent explains how these markings can be used to hit a moving target with minimal calculations required:¹⁶

As exemplified in FIGS. 54a, 54b and 54c, in some embodiments, reticles of the present invention provide rapid range determination and target engagement for multiple target sizes and target distances, and ammunition calibers. For example, using an AR-15 style rifle equipped with a reticle as shown in FIG. 54b, a rifleman observes two combatants behind a car. He mounts his rifle and looks through the riflescope. In some embodiments, a rifleman may use a reticle of the present invention without a measure of range. In other embodiments, a rifleman may use a reticle of the present invention with a measure of range from sources other than the reticle using, for example, a known distance to an object adjacent to a target, or a distance from a laser range finding device. In preferred embodiments, using horizontal line rangefinder markings above lead markings upon a primary horizontal cross-hair, the rifleman selects a horizontal range finding line with a distance above the primary horizontal cross-hair that fits the distance of the image from head to the shoulder (e.g., 12 inches) of one of the combatants. In some embodiments, the reticle of the present invention is configured such that a specific rangefinder marking line corresponds to a specific image in Mils that corresponds to selection of a specific secondary horizontal cross-hair to use for elevation correction

For example, the shooter finds that the distance between the horizontal line rangefinder marking above the 4 miles per hour secondary vertical cross-hair lead marking (“4”) upon the primary horizontal cross-hair fits a combatant’s head to shoulder distance. Rangefinder marking 4 has a value of 0.8. For rapid calculation, the marksman removes the decimal point and the resulting integer is subtracted from 10, with the resulting integer providing the Mil hold for that range. For example, removing the decimal point from 0.8 provides the integer 8, which is subtracted from 10 to arrive at a value of 2, which corresponds to the Mil hold for that range. Accordingly, the rifleman uses secondary horizontal cross-hair #2 of, for example, the reticle as shown in FIG. 54b to compensate for bullet drop. Using a rifle and telescopic riflescope zeroed at 100 yards with the intersection of the primary vertical cross-hair and the primary horizontal cross-hair as the zero point, to target a first combatant the rifleman holds on secondary horizontal cross-hair #2 at its intersection with the primary vertical cross-hair. If, for example, the rifleman now observes a second combatant at the same distance as the first combatant, but running at approximately 4 mph to the right, he uses

¹⁶ ’971 patent at 50:42-52:12.

secondary horizontal cross-hair #2 for range. With his eye on the secondary horizontal cross-hair #2, he moves his rifle to the right and stops when the target is located on secondary horizontal cross-hair #2 directly under the 4 miles per hour lead marking comprising a secondary vertical cross-hair upon the primary horizontal cross-hair. The rifleman is now able to account for both bullet drop and lead without the necessity for additional calculation.

33. In the summary of opinion ascribed to Mr. Campbell, he opines that “the patent never defines lead markings.” This statement completely ignores the express teachings of the ’971 patent. Contrary to Mr. Campbell’s mistaken view, the patent does in fact provide a definitional use of lead markings that comports with that term’s ordinary meaning in the field. The ’971 patent explains that “lead markings on the reticle are used to aid the shooter in determining the direction and rate of movement of the target in relation to the shooter in order to target a moving object.” (See ’971 patent at 46:51-54.)

34. Mr. Campbell also apparently believes that “lead markings” is discussed as requiring at least three lead markings on the reticle of claim 1 of the ’971 patent. It is unclear what basis Mr. Campbell has for opining that at least three lead markings are required by the claims, given that the claim expressly recites “two or more” lead markings. In my opinion, one of skill in the art would not understand the plain English phrase “two or more” to mean “three or more,” and I am unaware of any factual or logical basis for Mr. Campbell’s apparent belief to the contrary.

35. As I explain in this report, the term “lead markings” is a common and well-known phrase to one of skill in the art, thus no construction of the phrase is necessary. However, should the Court decide to construe the phrase, in my opinion it should be construed as “markings on a reticle that allow for assessment of rate of movement of a target along a cross-hair.” Such a construction would be in keeping with the ordinary meaning of the term and with the teachings of the patent.

B. “Lead Marking” Is Not Indefinite

36. According to the summary of intended testimony of AB’s expert, Matt Campbell, Mr. Campbell intends to opine that “lead markings” is used in a vague and unclear manner in the ’971 patent and this means that the patent is indefinite.

37. With all due respect to Mr. Campbell, I disagree. In my opinion, the ’971 patent is clear and precise in its usage of the term “lead marking” and the claims of the ’971 patent are not indefinite. To the contrary, in my opinion the claims define the scope of the invention with reasonable certainty.

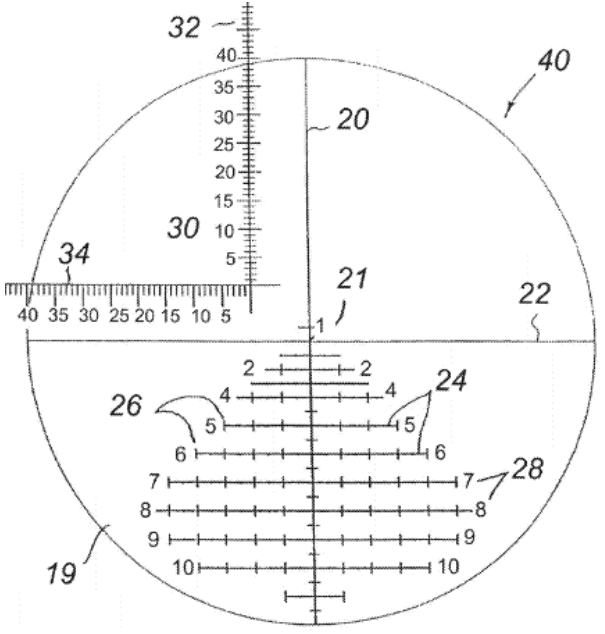
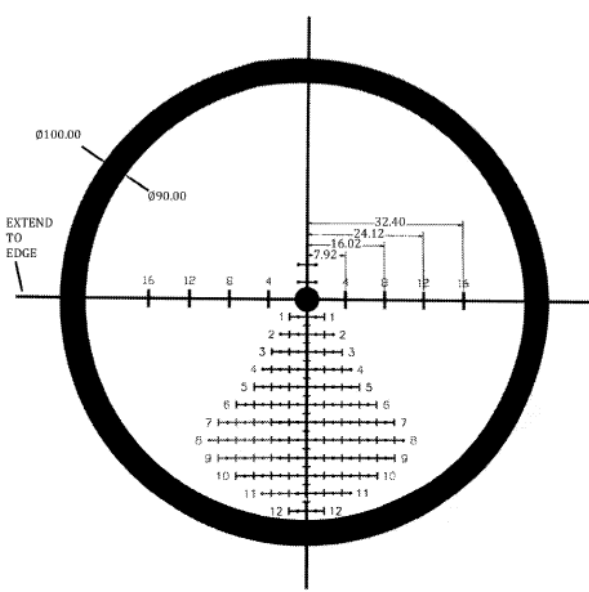
38. As I noted above, the term is a well known one that is readily familiar to one of ordinary skill in this art. Furthermore, as I discussed above, the specification provides extensive specific teachings on how the term is to be used in the context of the invention. In my opinion, the patent does not redefine the term or use it in a way distinct from or contrary to the manner in which ordinarily skilled artisans routinely use the term. Finally, as I explain in detail in this declaration, in my opinion one of ordinary skill in the art could readily ascertain the scope of the lead marking element recited in the claims of the ’971 patent and, thereby, determine the scope of the claim as a whole. Accordingly, in my opinion, the claims are not indefinite.

39. I further disagree with the position ascribed to Mr. Campbell because it appears to analyze the term “lead markings” in isolation, rather than in the context of how the term is used in the claims. In my understanding, terms are to be construed in the context of the full claims in which they are used, taking note of the other words and phrases in the claim. In the ’971 patent claims, the term “lead marking” is never recited in isolation as a distinct and separate part of the claim. Rather, the ’971 patent only recites the term as “vertical lead markings upon said primary horizontal cross-hair.” Thus, any discussion over whether the term “lead markings” would be

indefinite if it were employed as a standalone element on a reticle description is irrelevant to construction of the claims of the '971 patent. By limiting "lead markings" to two or more markings along the primary horizontal cross-hair, the patent provides additional clarity and precision that make the scope of the claims clear in my opinion.

40. Mr. Campbell apparently intends to opine that "lead markings" is indefinite because the specification states that lead markings may occupy positions on the reticle that are also ascribed to other reticle elements, such as secondary cross-hairs. I respectfully disagree. First, I do not believe Mr. Campbell's opinion on this point is relevant to the claims of the '971 patent, because Mr. Campbell does not identify any marking that is recited as a claim element of the reticle of the '971 patent that supposedly is both a secondary cross-hair *and* a lead marking. For example, the only secondary vertical markings along the primary horizontal cross-hair recited in the claims of the '971 patent are the lead markings recited in claim 1(a)(iii). Thus, Mr. Campbell cannot say that claim 1 recites both secondary vertical cross hairs and vertical lead markings along the primary horizontal cross hair, because the claim does not recite both of those elements.

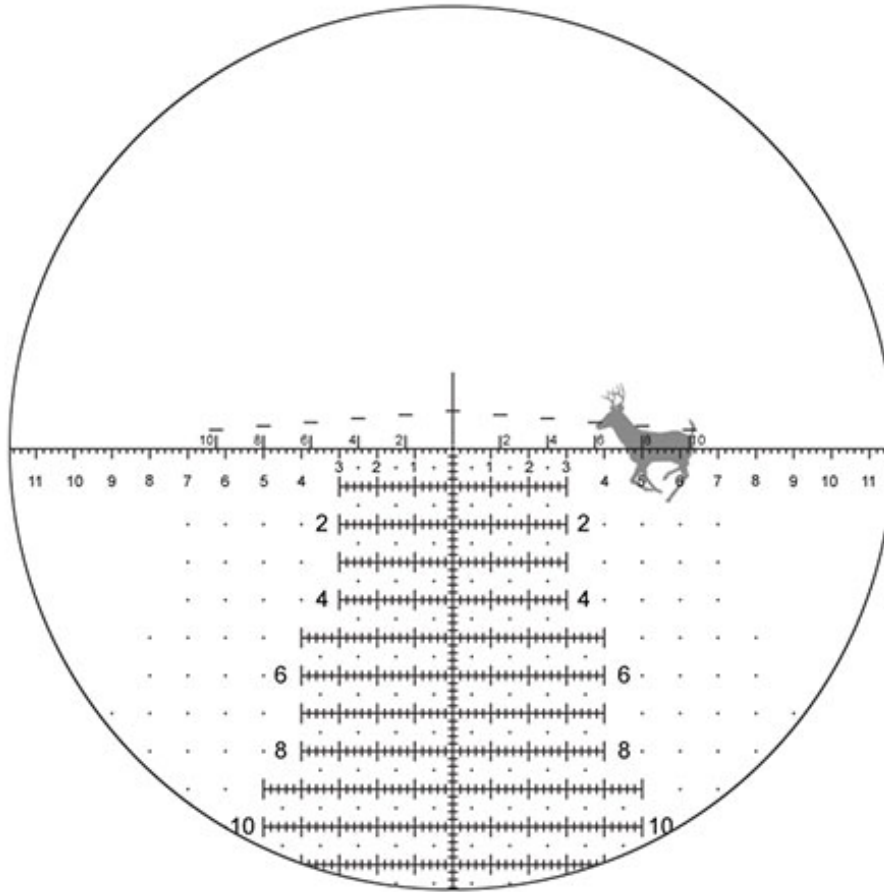
41. In order to illustrate this point, the table below provides an example of two reticles from the '971 patent specification that illustrate reticles with and without the vertical lead markings along the primary horizontal cross-hair as recited in claim 1.

Figure 10 (Drawing Sheet 8)	Figure 44a (Drawing Sheet 68)
	
No vertical lead markings along the primary horizontal cross-hair	Vertical lead markings along the primary horizontal cross-hair ¹⁷

42. Below is a diagram of the reticle shown in Figure 54 of the '971 patent with lead marking labeled 2, 4, 6, 8, and 10 corresponding to miles per hour of target movement overlaid on a moving target deer.¹⁸

¹⁷ See '971 patent at 45:32-35 ("FIG. 44a is a front view of a reticle of the present invention, showing the markings as viewed through a zoom telescopic gunsight at high power in day light, with lead markers along the primary horizontal cross-hair . . ."); *id.* at 46:43-46 ("As shown in FIG. 44a, in some embodiments markings along a horizontal cross-hair are used to indicate the hold points for the shooter to use when leading or engaging moving targets.").

¹⁸ See *id.* at Figure 54 (adapted for this declaration).



43. I understand that Mr. Campbell's opinion that "lead markings" is indefinite is also based on the patent's teaching that lead markings may be "unevenly spaced." Apparently, Mr. Campbell believes that "uneven spacing would make it particularly complex to use [lead markings] to indicate a rate of movement." I do not agree with Mr. Campbell. First, Mr. Campbell provides no explanation as to why complexity of use of lead markings is relevant to whether their recitation renders the claims indefinite. I am not aware of (and Mr. Campbell does not identify) any reason why complexity of use (even if true) means that the claims cannot be understood. In light of the teachings of the '971 patent, the complexity of ballistics calculation does not mean one of ordinary skill in the art cannot strike faraway targets under difficult conditions. Furthermore, to the extent Mr. Campbell is suggesting that unevenly spaced lead

markings cannot be used to indicate target rate of movement, he is mistaken. Lead markings can be spaced apart at any distances from each other and used to indicate rate of movement, because the rate of movement can be determined by accounting for lead marking spacing at the time the determination or estimation is made.

44. Mr. Campbell also apparently intends to opine that “the reader of the patent has no way to look at a reticle and identify any particular marking as a lead marking, as opposed to any other type of marking.” Respectfully, this opinion is wrong. First, I understand that the “reader” of the patent for this inquiry is one of ordinary skill in the art, not a layperson. In my opinion, one of skill in the art is guided expressly to knowing which markings constitute lead markings by the claims themselves (which limit lead markings to vertical marks along the primary horizontal cross-hair) and by the detailed explanation of the specification discussed above, in combination with their existing knowledge. For example, when I train shooters, we will routinely practice with any of the mil marks on a reticle to assess target speed and for leading. Second, Mr. Campbell’s apparent opinion assumes incorrectly that a lead marking must be a specific marking “as opposed” to “any other type of marking.” But this opinion appears to ignore that the claim doesn’t recite “lead markings” in a vacuum, but rather within the limited context of “vertical lead markings upon said primary horizontal cross-hair.”

45. Mr. Campbell is apparently of the opinion that one of skill in the art can only determine a lead marking on a reticle if the patent specifically identifies a marking by the name “lead marking” as in Figure 45b. I disagree with this and do not share Mr. Campbell’s apparent opinion that one of skill in the art cannot determine what a lead marking is without it being specifically identified as such on the reticle itself. To the contrary, one of ordinary skill in this art has extensive experience with reticle design and long range shooting and has practical

experience in using markings as “leads” or for “leading” (sometimes also called “holdover/holdunder,” “lagging,” or “reverse leads”). One of ordinary skill in the art would read the specification’s detailed teachings, in light of this experience, and readily understand the meaning of “lead markings” as it is used in the ’971 patent claims. Mr. Campbell is not correct, in my opinion, to limit the invention solely to reticles such as the one depicted in Figure 45b in which lead markings are expressly labeled as such.

46. Thus, in summary, in my opinion the term “lead markings” does not render the claims of the ’971 patent indefinite.

C. Construction of the Terms “Intersection” and “Interrupted Intersection.”

47. In my opinion, the terms intersection and interrupted intersection are common and well-known phrases to one of ordinary skill in the art. Indeed, the very notion of a cross-hair is predicated on the concept of a “cross-hair.” The fact that reticle lines (or “hairs”) “cross” each other at intersections is the reason these reticle markings are called cross-hairs.

48. To the extent the Court determines to construe these phrases, I agree with the Court’s prior construction from the prior case that intersection should have its common English meaning and that “the intersection of cross-hairs need not be visibly depicted, but may instead be inferred from context.” My opinion is based on my knowledge of precision reticles for long-distance shooting and my experience in using them.

D. “Intersection” and “Interrupted Intersection” Are Not Indefinite.

49. I note that in its prior order, the Court in this case looked to Figure 32 of the ’878 patent (which corresponds to Figure 32 of the ’971 patent) in support of its prior construction. I have reviewed the Court’s rationale and the patents discussion of reticles such as the one shown in Figure 32, and I agree that Figure 32 and the patent’s teachings make clear that an intersection

may be inferred from context and need not be visibly depicted. ('878 Markman at *9-10.) I further agree with the Court that the opposing view proposed by AB (and, apparently, its expert) makes “little sense and is contrary to the clearly intended interpretation” of the patent. (*Id.*) I further agree with the Court that the intersection of the primary horizontal and vertical cross-hairs in Figure 32, and others like it, “cannot reasonably be questioned.” (*Id.*)

50. Indeed, as a practical matter, it is unlikely one of ordinary skill in the art would be genuinely unable to locate or identify the point of intersection of cross-hairs according to the teachings of the '971 patent. Locating the intersection point between two cross-hairs on a reticle is intuitive to one of ordinary skill in the art because it is a rudimentary, yet integral, component of target shooting.

51. Ultimately, in my opinion, there is no reason to believe that the point of intersection of any of the cross-hairs of the '971 patent is not immediately apparent to one of skill in the art. My opinion in this regard is not altered by the teachings in the specification that cross-hair lines may be drawn in an “interrupted” manner, for example through dashed lines. (*See, e.g.*, '971 patent at 3:66-4:1.) Nor is it altered by the recitation in dependent claim 7 that the point of intersection is itself interrupted because there is a gap in the cross-hair lines at the point where they meet. Indeed, dependent claim 7 would seem specifically directed to reticles depicting the intersection of the primary cross-hairs as in Figure 32 because the claim recites the presence of an “aiming dot” at the place of the interrupted intersection of the primary cross-hairs – exactly as is shown in Figure 32. I also note that there are a great number of additional reticles and teachings of the '971 patent that further underscore the intention of the inventors in employing the terms “intersection and interrupted intersection” as clearly embracing reticles in

which the exact point of intersection is not visibly depicted but instead may be inferred from context. *See Appendix A* to this declaration, which I incorporate by reference.

52. Furthermore, there is a specific reason why an intersection point would be “interrupted” or otherwise not visibly depicted. A rifle scope is often “zeroed” prior to use in the field. Zeroing a scope means the range settings on the scope are adjusted such that a target at a particular distance is hit when centered in the reticle and these settings are confirmed through live-fire testing at a rifle range. Once zeroed at a predetermined range (for example 100 yards), the rifle is set up to precisely strike a nonmoving target 100 yards away when the rifle is aimed so that the point of intersection of the primary horizontal and vertical cross-hairs is directly over the target. Given that this is one of the most common uses of a reticle, it can be advantageous to have the primary cross-hairs *not* be depicted at the point of intersection to provide the shooter’s eye a clear and unobstructed view of the target. Such a gap or interruption at the intersecting point is an aid to the shooter and does not create any uncertainty or difficulty about whether cross hairs actually intersect or where the location of that intersection is. In my opinion, it is well understood that both positive space and negative space can provide an aiming point and that one can overlay negative space at the juncture of two crosshairs to effectively hit a target in the vital zone radius. Different shooters have different preferences for whether there is negative space or positive space at the junction of cross-hairs and a variety of reticles exist on the market to accommodate these preferences.

53. For the foregoing reasons, in my opinion the Court’s construction of “intersection” in the prior case was correct, and the ’971 patent’s use of “interrupted intersection” in dependent claim 7, does not render the claim indefinite. To the contrary, in my

opinion, the claims define the scope of the invention to one of ordinary skill in the art with reasonable certainty.

V. CONCLUDING REMARKS

54. I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct.

Executed this 22nd day of June, 2015.

A handwritten signature in black ink, appearing to be "Mike Lamb", written over a horizontal line.

Mike Lamb (U.S.M.C. (Ret.))